Future Drivers of Leisure Time Physical Activity in Iran

Authors' contribution:

- A) conception and design of the study
- B) acquisition of data
- C) analysis and interpretation of data
- D) manuscript preparation
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ABSTRACT

Physical activity can contribute to societal health and prevent antisocial behaviors. This study explored the driving forces facilitating these goals in Iran's socio-cultural context. Through a literature review, investigation of available political documents, interviews with experts and consensus of the research team, seventy-three driving forces were explored from different domains and then categorised via the STEEPV framework. This framework considers drivers from Social, Technological, Environmental, Economic, Political, and Value/Cultural dimensions. The "sport/sport sciences" domain was also considered as an additional domain. In the next step, a questionnaire with an answer scale of 1 to 7 was distributed among experts. The fuzzy Delphi method was used to analyse the collected data. Results showed eighteen drivers from five domains (social, environmental, economic, technological and sport/sports sciences) dramatically influenced leisure time physical activity (LTPA) in Iran. "Physical activity opportunities for vulnerable groups" was identified as the most important driver for participation in LTPA. Results suggest the need for a multidimensional and thorough consideration by organisations, leisure managers and policymakers to discover methods to promote health-related physical activities in the future.

KEYWORDS

physical activity, leisure, fuzzy Delphi method, STEEPV, Iran

Introduction

The Universal Declaration of Human Rights contends "everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay" (United Nations General Assembly, 1948). To this end, exploring the past and predicting future leisure provisions and participation would be essential planning tools (Henderson & Bialeschki, 2005).

A number of countries have adopted national physical activity (PA) plans. By monitoring the prevalence of PA, they attempt to promote these behaviors in individual leisure time (The global observatory for physical activity, 2016). These plans are of societal and political interest: being physically active can contribute to a sense of belonging, reduce delinquent and antisocial behaviors and create a healthier society (Spruit et al., 2016).

Despite such positive potential outcomes, a large percentage of many societies do not meet PA standards. For example, the proportion of Europeans that never participate in physical activities has increased from 39% in

2009 to 42% in 2013 and 46% in 2017 (Special Eurobarometer Report, 2018). The statistical center of Iran (2015) reported that in urban areas, an average of only 16 minutes/day of leisure time is spent on physical activities. Furthermore, from 2009 to 2015 in Iran, the average time spent on PA has increased by only 4 minutes/day (ibid). Moreover, Fakhrzaddeh et al. (2016) reported a range of 30% to 70% physical inactivity in the Iranian population with considerable variation between sexes and sub-groups. This cannot be attributed to limitations on leisure time, as such time is relatively high in Iran (Safiri & Modiri, 2012).

Leisure Time Physical Activity in Iran- A socio-cultural context

Multiple groups within the Iranian population do not participate in the standard level of PA. Most of the relevant research projects on leisure-time PA (LTPA) have studied various population groups (e.g. adolescents, adults, men, women, etc.) to understand this phenomenon.

Mohebi et al. (2019) reported insufficient physical inactivity among Iranian adults. They explained that from 1990 to 2017, the level of physical inactivity increased globally by 1.5 times and 2-fold in Iran contributing to a high level of mortality. They concluded that living in urban areas and unhealthy lifestyles have resulted in such a situation (ibid.).

Rezaee Sofi (2006) studied LTPA in high school students and concluded they are not satisfied with their sport and PA facilities. A majority (72%) of the respondents stated that they do not participate in physical activities because of low income. Keshkar et al. (2007) determined that age does not stop Iranian women from sport and PA participation, but rather inappropriate sport facilities and cultural issues such as ridicule and not being taken into account by others are the most important barriers (ibid.).

Besides, Rajabi, Mounesan, Sayarifard, and Ghadirian (2018) investigated the physical activity situation of adolescent and young Iranian girls. They reported an inadequate level of physical activity among this group of the population and therefore indicated that supporting policies, environment, and programs are highly required to promote an active lifestyle. Moreover, it was argued that multilevel cooperation among schools, families, and society is necessary to meet the standard level of physical activity (ibid.). In another research, Sadeghi, Sajjadi, Nooshabadi, and Farahani (2018) aimed to identify the socio-cultural barriers of professional female athletes in Iran. They found that personal problems, social beliefs, government and cultural attitudes, legal customary barriers hinder Iranian women from regular participation in these activities (ibid.).

With regard to socio-cultural determinants, Taymoori et al. (2010) considered cultural obstacles such as restrictions on PA in public and concluded that this restriction influences the role of social support on participation in these activities. In most Islamic countries, importance has been placed on social volunteering and religious, scientific and cultural activities rather than PA (Arab-Moghaddam et al., 2007). Roberts, Kovacheva, and Kabaivanov (2018) explained that unlike in western societies, work and leisure have been combined in Arab Mediterranean countries and religious and political participation are prominent in people's leisure time. This characterisation is true of Iranian society.

Karimian et al. (2010) investigated LTPA in employees and concluded that traditional perspectives towards leisure time in Iran lead to exclusion of people from PA. It was also reported that most disabled people are dissatisfied with their leisure time. Despite high interest in PA, their participation time is limited due to traffic problems, physical problems and lack of proper facilities (Alizadeh & Gharakhanloo, 2000). The elderly face their own challenges in this regard, and compose a significant portion of Iran's population. Taking into account the rapidly aging population, health providers should be required to schedule more LTPA. This is especially important considering leisure time increases after retirement (Tanjani et al., 2015). In another study, Yarmohammadi et al. (2019) identified the most important barriers and motivators of elderlies' physical activities in Iran. The main barriers included physical problems and being alone. The motivators included being in a good physical condition, being social, and being in a suitable physical environment. They concluded that it

is almost the same situation for elderly in other countries and therefore called for formulating general strategies (ibid.).

At a broader level, Sheykhi (2004) studied the influence of globalisation on Iranians leisure and found that leisure activities are related to economic factors and changing lifestyles over recent decades, and added that leisure time is becoming more important to younger Iranians (15-29 yo). He argued that younger Iranians will require more leisure facilities due to increasing importance of social health, national unity and social cohesion (ibid). Masrour et al. (2012) investigated LTPA among university students in Iran and reported that despite having 6-12 hours/day leisure time in the summer, they spent this time more on electronic entertainment (watching TV, internet, etc.) than PA. Besides, Aliyas (2020) studied the relationship between domains of social capital (reciprocity, trust, and social network) and PA level in Iran. The study revealed that reciprocity and trust variables contribute to high participation in PA programs among both males and females. Moreover, social networks resulted in a higher level of PA among females (ibid.).

Some studies have identified existing challenges in changing PA culture in Iran including previous PA experiences, lack of time, lack of motivation or support, traditional and religious beliefs, lack of sanitary conditions in PA and sport spaces, lack of safety, accessibility to PA facilities and self-concept in Iranian society (Nazarian & Ramezani, 2014; Motmeni et al., 2015; Mohammadi & Monem, 2016; Rezaei et al., 2017; Farhoudi et al., 2018). However, in approaching the question of how to increase the level of PA in Iran, the abovementioned determinants did not completely address the issue. To fill the research gap, it was assumed that some macro forces might contribute to regular and consistent LTPA participation of Iranians.

Driving Forces

Driving forces include factors, conditions, trends or events which can influence issues in a constantly-changing environment (Schwartz, 1991). These influential forces can be classified based on different criteria. Specifically, developments in leisure participation are affected by society-wide changes related to time use, demography and differences in income and health (Torkildsen, 2011). In the relevant literature, there are several classifications. One perspective includes environmental factors, personal factors and life circumstances (Häusser & Mojzisch, 2017). Determinants of leisure participation have also been classified into three groups: opportunity (e.g. distribution of facilities, politics, policies), social and circumstantial and personal (Torkildsen, 1986). Taking a broader view, a quadruple taxonomy of drivers influencing sport participation was introduced by Bottenburg et al. (2005): environmental, personal, interpersonal and societal factors.

Environmental factors are considered the most influential LTPA determinants. The role of environmental factors on PA has been studied in the past decade (Eskola et al., 2018). The physical environment encompasses both built (e.g. transport, playgrounds and sports facilities), and natural (e.g. climate and weather and perceptions of safety) environments (Brochado et al., 2010). Personal factors include enjoyment of activities, behavioral intentions and self-efficacy (Cleland et al., 2010). Interpersonal factors can describe support of family and friends. Societal factors include the necessity of participation in physical activities for all society members and PA behaviors of parents that influence behavioral patterns of future generations (Bottenburg et al., 2005).

There is likely a wide and diverse range of driving forces that can significantly determine the future direction of Iranians' participation in LTPA. To identify the influential forces from different dimensions, we utilised the STEEPV¹ framework. This technique cannot be attributed to a specific person or organisation. In 1967, Francis Aguilar first referred to the so-called "Scanning the Business Environment". He proposed that the environmental factors affecting a business include Economic, Technical, Political and Social factors (ETPS). Arnold Brown later introduced the acronym "STEP" and added environmental factors to produce "STEEP". Over the years, many experts have defined Brown's STEEP analysis in different ways and using different taxonomies (Dcosta,

¹. Social, Technological, Environmental, Economic, Political, Value.

2014). The STEEPV is utilised to structure information extracted from identified trends, potential developments or events that occur in society, technology, economy, environment, politics and cultures (Schwartz, 1991). This technique includes six domains:

- 1) social (population rate, age distribution, the importance of safety and lifestyles; the ‘motivational climate’ is also an important determinant);
- 2) technological (research and development activities, technology incentives and rate of technological change);
- 3) economic (economic growth, exchange rates and economic structures);
- 4) environmental (includes both built and natural environments);
- 5) political (roles and actions of the government, trade restrictions, political stability and national and international laws) and
- 6) value (human ethics, morals and beliefs). Values include norms of human behavior and how people think about norms in relation to PA (Meissner et al., 2015, Nazarko & Kuźmicz, 2017).

This classification ensures that all types of driving forces have been included (Vinnari, 2008). This study explored and screened the most important drivers from the more diverse domains that should be included by all relevant practitioners and policy makers in developing and facilitating LTPA programs. This will lead to better-informed public health and active leisure policies in the future.

Material and methods

Exploratory research combining the STEEPV technique and the Fuzzy Delphi Method (FDM) was conducted for categorisation and data analysis, respectively. Generally, fuzzy logic (which has been incorporated with the Delphi method) was developed to handle partial truth values between completely true and completely false. Its importance is derived from the fact that “most modes of human understanding and especially common-sense reasoning are actually approximate” (Lan et al., 2011, p. 184).

A thorough review of primarily national but also international literature, investigation of available political documents, interviews with experts and consensus of the research group helped identify seventy-three relevant drivers for exploration. To collect the quantitative data, fourteen experts (male and female) were selected from the university faculty in the fields of leisure, recreational sports and sociology, as well as individuals in a government position with at least ten years’ experience in the areas of psychology and sports policy. A questionnaire in the format of Iran’s horizon scanning report from 2015, 2016, and 2017 with an answer scale of 1 to 7 was distributed among these experts. (The scanning report is published annually by experts in relevant domains to describe all kinds of trends and issues in Iranian society). After determining the LTPA drivers in Iran, they were classified using STEEPV technique. Some of the detected drivers could not be classified by the STEEPV, so the ‘Sport/Sports Sciences’ domain was added by the research group as an additional domain, to include influential events in the sports world and sports sciences as well as performance of Iranian athletes that can affect participation in LTPA. Eventually, the questionnaire was modified by eight experts in two rounds according to the appropriateness of the questions for the purpose of increasing their convergence.

The aim of this research is to identify the driving forces of LTPA in Iran. As was mentioned above the STEEPV was used as a framework to structure and classify a wide and diverse range of these driving forces that have been extracted from a broad literature. In the second stage, the Fuzzy Delphi method (FDM) is utilized to verify the identified drivers by expert judgment. Also using this method, we could filter some of the drivers to reduce the dimension and eliminate redundant drivers.

Fuzzy Delphi Method (FDM)

The traditional Delphi method requires considerable time for collecting expert opinions. The Fuzzy Delphi Method (FDM) reduces the number of iterations as well as the costs compared to the traditional Delphi method but also respects the original opinions of all the experts by solving the fuzziness of common understanding of all the experts' approaches. It features the advantage of simplicity and therefore, all of the opinions can be encompassed in one investigation (Ishikawa et al., 1993; Chang et al., 2000; Kuo et al., 2008). In addition, given the complexity and uncertainty of the influential forces on participation in LTPA, the ambiguity of common understanding of experts' consensus can be solved by applying FDM which was used in this study to screen the most important driving forces. This is not a capability expected from the traditional Delphi method. Moreover, the FDM requires only relatively small numbers of samples, because even though it is independent of the sample size, the derived results meet the same criteria for objectivity (Hsu & Yang, 2000; Hsieh, 2013; Tahriri et al., 2014).

The collected opinions were organised from questionnaires into estimates and the triangular fuzzy number $\tilde{F}_A$ was created as follows:

$$\tilde{F}_A = (i_A, m_A, u_A)$$

Where,

$$i_A = \min (X_A)$$

$$m_A = \sqrt[n]{\prod_{i=1}^n X_{Ai}} \quad i \text{ denotes the } i\text{th expert; } i=1;2;\dots;n$$

$$u_A = \max (X_{Ai})$$

Where X_{Ai} indicates the appraisal value of the i th expert for driver A; L_A indicates the minimum value of all the experts' consensus for driver A; M_A indicates the geometric mean of all expert appraisal values for driver A, generally used to denote the expert consensus in group decision making (Hsu, 2007) and U_A represents the maximum value of all the experts' consensus for driver A (Fig. 1). As the membership degree of triangular fuzzy numbers, U_A is used to derive the statistically unbiased effect and avoid the impact of extreme values (Hanafizadeh & Mirzazadeh, 2011, p. 202).

Figure 1. Diagram of Triangular fuzzy numbers
Source: Hsu, 2007.

Then a de-fuzzification process was used to filter the factors in the following step:

$$of_j = \frac{u_{i+4m+i_j}}{6}$$

Finally, a screening threshold was established. In this study, for the threshold value r , the 80/20 rule was adopted with r set at 5.6. This indicated that among the drivers for selection, “20% of the drivers account for an 80% degree of importance of all the drivers” (Kuo & Chen, 2008). Using a 7-point Likert-type scale, the selection criteria were assessed as follows:

$$\frac{80 \times 7}{100} = 5.6$$

If $M_A \geq r = 5.6$, this driver is accepted.

If $M_A < r = 5.6$, this driver is not accepted.

Drivers that score equal to 5.6 or greater were selected as the most important.

Results

A total of eighteen drivers were determined as most important for analysis. The results show that “PA opportunities for vulnerable groups” remains a highly important driver for LTPA program engagement in Iran (Table 1). This finding is likely attributed to the necessity of providing equal opportunities for all segments of Iran’s population in the various sport and PA contexts including media, facilities and so on.

Table 1. The most influential drivers of LTPA

No	Domains	Drivers	Score			
			Min	Max	Geometric mean	De-fuzzy
1	Environmental	PA opportunities for vulnerable groups	5	7	6.23	6.15
2	Social	Youth frustration	5	7	6.13	6.09
3	Social	Hope/disappointment about future	5	7	6.05	6.04
4	Economic	Purchasing power of people	5	7	6.03	6.02
5	Environmental	Distribution of PA facilities in both areas with high and low socio-economic classes	5	7	5.80	5.87
6	Sport/Sports Sciences	Trends in sport and LTPA-oriented businesses	5	7	5.72	5.83
7	Technological	The entertainment industry (e.g. video games)	4	7	5.96	5.80
8	Sport/Sports Sciences	Performance of international sports teams (e.g. volleyball and football, etc.)	5	7	5.69	5.78
9	Technological	Emerging of electro-recreational tools	4	7	5.65	5.77
10	Technological	Emerging of PA-related software (e.g. smartphone applications)	5	7	5.68	5.76
11	Environmental	Air pollution (resulting from dust and dopants)	4	7	5.85	5.73
12	Technological	Changes in technology and the amount of free time	4	7	5.80	5.72
13	Technological	Using the internet and informational technology to simplify access to PA information	4	7	5.78	5.71
14	Sport/Sports Sciences	Free after-school time	3	7	5.99	5.70
15	Economic	Economic infrastructure	4	7	5.70	5.66
16	Technological	Virtual social networks	4	7	5.65	5.64
17	Sport/Sports Sciences	Winter sports development	4	7	5.62	5.63
18	Sport/Sports Sciences	Structural changes in the sport ministry and sport federations using a recreational sports approach	3	7	5.83	5.61

19	Sport/Sports Sciences	The consequences of obesity and illnesses, and the costs as an external shock to the sports policy system	3	6	6.03	5.52
20	Economic	GDP level	4	7	5.42	5.45
21	Sport/Sports Sciences	Number of schools and sports clubs	3	7	5.6	5.40
22	Sport/Sports Sciences	The interaction between the Ministry of Health and the Ministry of Sports in PA affairs	4	7	5.54	5.36
23	Economic	Youth unemployment	2	7	5.26	5.34
24	Social	Awareness of community members about the benefits of doing sports and PA	4	6	5.74	5.33
25	Economic	Changes in per capita income of society members	3	7	5.23	5.32
26	Sport/Sports Sciences	Hosting or organising mega sport events (such as Pars Marathon) inside the country and world sports (such as volleyball and football)	4	7	5.45	5.30
27	Sport/Sports Sciences	Collaboration between health organisations and amusement agencies to provide recreational services for residents with disabilities or illnesses	3	7	5.43	5.29
28	Political	The government's function in social security (policies, laws, etc.)	4	7	5.17	5.28
29	Environmental	Tendencies towards sustainable development in society	4	7	5.15	5.27
30	Technological	Trends in knowledge and technology transmission	3	7	5.34	5.23
31	Economic	Inflation rate	3	7	5.27	5.18
32	Environmental	Environmental problems caused by urbanisation	4	7	4.99	5.16
33	Value/cultural	Religious and traditional beliefs in society	4	7	4.97	5.15
34	Social	Being multi-career in society	3	7	5.19	5.13
35	Sport/Sports Sciences	Leisure opportunities through the development of adventure sports	4	7	4.93	5.12
36	Sport/Sports Sciences	Attention to sports and health in public and private organisations	2	7	5.41	5.11
37	Value/cultural	Attitude towards the body	4	7	4.79	5.03
38	Economic	Economic Growth	4	6	4.94	4.96
39	Technological	Globalisation as the result of the communications and information explosion era	2	7	5.17	4.95
40	Sport/Sports Sciences	Women's successes in professional sports	2	7	5.10	4.90
41	Environmental	New environmental movements in the country (e.g. 'Tuesdays, without cars')	3	7	4.80	4.87
42	Social	The number of social roles for both women and men in society	2	6	5.27	4.85
43	Sport/Sports Sciences	Changes in sports management curriculum and the development of leisure-time and recreational activities courses	3	7	4.64	4.76
44	Political	Implementation of national public sport related initiatives (such as national fitness, pedestrian, and marathon)	3	6	4.87	4.75
45	Environmental	Destruction/development of natural resources and forests	3	6	4.84	4.73
46	Sport/Sports Sciences	The policy and decision makers' approach towards sport for all (through slogans)	2	7	4.83	4.72

47	Social	The increasing tendency of people towards fitness	3	6	4.74	4.66
48	Value/cultural	The beliefs of women and men about the masculinity of sports activities	2	7	4.72	4.65
49	Social	Change in people's lifestyle as a result of globalisation	2	7	4.63	4.59
50	Value/cultural	The attitude and beliefs of sports providers towards women's sports	3	7	4.32	4.55
51	Social	Insecurity in family foundation	3	6	4.56	4.54
52	Political	Developing policies for humanising of working conditions by reducing work hours and developing leisure policies	1	7	4.79	4.53
53	Sport/Sports Sciences	The trends of holding scientific conferences with a focus on leisure and sports	2	7	4.44	4.46
54	Environmental	Enactment of global environmental laws	2	7	4.38	4.42
55	Sport/Sports Sciences	Number of graduates in physical education and sports sciences	3	7	4.02	4.35
56	Political	The Universal Declaration of Human Rights and its emphasis on the need for governments towards leisure time	2	6	4.49	4.33
57	Economic	The degree of financial stability	1	7	4.40	4.27
58	Social	Urbanisation of about 75% of the population by 2050	2	7	4.14	4.26
59	Value/cultural	The cultural influence of other countries and the belief in non-indigenous PA	2	7	4.09	4.23
60	Social	Increase in the number of pensioners	3	5	4.33	4.22
61	Economic	Formulating new global policies on economic reformation	1	6	4.23	3.99
62	Political	The level of governmental sovereignty (the amount of privatisation)	1	6	4.04	3.86
63	Social	Trends of aging population (65 and above)	1	6	3.87	3.75
64	Economic	The one-product economy of the country (barrier to the development of the leisure industry)	1	6	3.80	3.7
65	Social	Gender inequality in the use of sports media program administrators	1	6	3.65	3.60
66	Political	Political conflicts of power parties in the country	1	7	3.34	3.56
67	Social	Social turmoil due to the increased class distance	2	6	3.29	3.53
68	Political	Joining global organisations	2	5	3.51	3.51
69	Social	Racial/ethnicity variety	2	7	2.92	3.45
70	Social	Population growth	2	5	3.27	3.35
71	Political	Political tensions in the world (causing people to escape from injustices of power and wealth to recreation)	1	6	2.97	3.15
72	Value/cultural	Religious confrontations	2	5	2.96	3.14
73	Political	Mega political events in the world	1	6	2.42	2.78

Source: own study.

Given the eighteen most important drivers, the average score for each influential domain was also estimated. The social domain was identified as the most important domain influencing participation in LTPA programs (Table 2). This result underscores the importance of the motivational atmosphere, which is required for scheduling and participating in these programs.

Table 2. The most important domains of Iranian participation on LTPA

Rank	Domains	Score			
		Min	Max	Geometric mean	De-fuzzy
1	Social	5	7	6.09	6.06
2	Environmental	4.5	7	5.96	5.92
3	Economic	4.5	7	5.86	5.82
4	Technological	4.17	7	5.76	5.70
5	Sport/Sports Sciences	4	7	5.77	5.68

Source: own study.

Discussion

Torkildson (2011) described fluctuation across the globe with regards to leisure away from home. For example, sports participation has increased in the Netherlands and the USA but decreased in Japan and Canada. This implies that national trends do not always follow global trends (ibid).

A broad range of multidimensional forces and trends can contribute to people's participation in LTPA programs. By identifying the social, demographical, political and economic trends leisure managers could influence the present and future status of these programs. The most important driving forces of LTPA that could facilitate participation in Iran, given the socio-cultural context, were explored in this study. The results indicated that drivers from social, environmental, economic, technological and sport/sports sciences domains could propel Iranians to regular and consistent participation in LTPA programs.

1. Social

Youth frustration and hope/disappointment about the future, the second and third most important drivers, respectively, coincide with those included in the so-called misery index. Although Iran's rank in the index has slightly improved overall since 2013, it's declined again more recently (Hanke, 2017). These are trends that could socially demotivate people from participating in such activities as the motivational climate is known as a social environment through which individuals are encouraged to promote their performances (Keegan et al., 2009). It is important for the government to take a thorough look at these issues and consider the role of social climate before developing LTPA strategies. In doing so, an assessment of psychological needs on participation in PA is likely required.

2. Environmental

Providing opportunities and facilities for vulnerable groups (e.g. the elderly, women) was the top driver of LTPA behavior. It is likely an important social driving force as these groups usually suffer unpleasant conditions and therefore need more social support. Aging trends and fluctuation in attitudes towards women in Iran have supposedly increased the complexity of this driver. However, available statistics indicate a non-standard level of PA among these groups. For instance, according to the research deputy of Iran's Ministry of Health, a large percentage of Iranians do not have sufficient PA to prevent future disease (Iran's Ministry of Health, 2016). This is true for the general public as well as vulnerable groups. According to Iran's factsheet, more than one-third of Iranian adults and approximately 43% of women do not meet PA standards (World Health Organization, 2015). Furthermore, approximately two-thirds of the country's elderly are active for only one hour/week (Sharifian & Soltani Nejad, 2013). As the elderly have more free time than other groups, specific strategies are needed to increase their level of participation, which mainly suffers from shortcomings in environmental support. This is a crucial issue as Iran is projected to have 26 million seniors (over 60 years old) by 2050 (Amini et al., 2013). This means that without providing enough PA opportunities, the government will pay much more in future healthcare costs.

Iranian women also face LTPA challenges. First and foremost, developing incentive programs related to women's sports in media in addition to formation of supportive national policies can improve participation of this large and important segment of the population. Similar policies have increased the level of PA among women in Taiwan (Yu et al., 2004) and Pakistan (Laar et al., 2018). These kinds of support are especially important when considering the potential role of women's lifestyle in shaping PA-related behavioral patterns of future generations. They primarily require a change in attitudes of relevant domestic authorities, media producers and other decision-makers.

The natural environment also plays an important role in driving Iranians to LTPA participation. Air pollution is one of the most important public health issues, one source of which is widespread dust storms which usually occur in spring and summer when people have more free time. In addition, Iran's population has tripled since the 1960s to almost 80 million people which increases strain on natural resources (Tahbaz, 2016). These circumstances can also restrict outdoor PA. This issue is even more critical if we consider that in addition to shortcomings in the built environment, inclement weather or poor outdoor conditions in the natural environment are contributing to ineffective outdoor physical recreation programs in Iran today.

3. Economic

Providing suitable economic support also affects the decision to be physically active. In this regard, the fourth most important LTPA driver, purchasing power of people, has fluctuated a great deal in recent years in Iran. Economic status is clearly a major determinant of participation in these programs (Eime et al., 2015). Humphreys and Ruseski (2006) concluded that higher income is associated with a higher possibility for participation due to affordability of a gym membership, equipment, etc. In contrast, in one global research study that explored PA trends in 168 countries across the world, it was reported that insufficient PA has also increased in high-income countries (Guthold et al., 2018). Regardless, economic factors can directly or indirectly influence other factors to control leisure behavior in society. Regarding the instability in Iran's economic structure in recent years, it is critical to formulate purposeful and adaptive strategies to meet physical recreation goals.

4. Technological

Technological change, including the seventh most important driver, may be considered a positive and negative LTPA influence. The negative impact of technology on PA is becoming more significant in Iran especially among younger generations since it serves no meaningful purpose (Masrour et al., 2012). Presently, leisure time at home is the main rival of leisure time away from home (Torkildsen, 2011). In such a situation, managers of leisure away from home must pay close attention to the strategies of leisure at home service providers to improve PA. However, technological change does not always lead to (Koekoek & Hilvoorde, 2018). It can also provide new opportunities in LTPA (ibid). For example, the internet can encourage users to participate by providing PA-related content. Even though previous studies identified the negative impact of technology on Iranian participation in LTPA, relevant professionals, practitioners and organisations can be engaged to take advantage of technological advancements in order to increase LTPA across the country. The benefits of PA could be promoted using the capacity of technological progression (e.g. smartphone applications and wearable technologies).

5. Sport/Sport Sciences

This domain is important to younger students in Iran who are engaged in technological progress more than other groups of people. The fourteenth most important driver, free after school time, implies a role for educational organisations in developing LTPA. Educational plans with more emphasis on PA should continue even after

the school day has ended, especially considering PA classes are marginalised in many countries (Ressler et al., 2016). Statistics show that only 5% of Iranian school students can get involved in the leisure time programs set by the education organisation (Iranian parliament, 2007). Lack of collaboration between physical education (PE) teachers and school authorities, ignoring the opinions of PE teachers and low hours/week for PE classes were reported as the most important barriers for developing PA among fourteen million Iranian students (Broujeni, Broujeni & Honari, 2017). Development of these programs can enrich lives and is especially important in early life because it can establish active lifestyle patterns. This has been a challenge in other countries. For example, 'Dutch and American sports policy suggests that locating sport and school facilities on the same campus should be related to school bonding and a stronger emphasis on school and school work' (Pot & Hilvoorde, 2013). In Taiwan, the Ministry of Education has adjusted PA at schools based on lifetime activities to increase this amount (Yu et al., 2004). Connecting school and physical activities should be an important requirement for Iran's Education Ministry as recent statistics reported by the deputy director of the Ministry of Health concluded that just 7% of school-aged boys and girls are physically active for at least 30 minutes/day, and almost 7% are not physically active at all (Raeisi, 2017). Changes sometimes take place in the context of elite sports or sport organisations that could influence LTPA patterns. In this study, experts considered Iranians' elite sport achievements, increasing in recent years, as capable of encouraging PA. While this result has not been definitively demonstrated in the literature, the Sports Ministry of Iran can potentially contribute to development of PA behavior by linking elite sports and non-elite sports in all policies. This has thus far been neglected in the structure of Iran's sport. Dousti et al. (2013) argued that sport and policy are connected to each other in Iran as the government assumes a variety of goals can be achieved through elite sports. Over the past ten years, the government has focused more on this aspect of sports (e.g. soccer) instead of LTPA, as a method of developing national identity (ibid).

Capacities for winter sports may also contribute to developing LTPA in Iran. This is currently limited by inadequate equipment or venues, poor media coverage of winter activities and lack of access to ski resorts (Aghaei, 2014). Developments of PA in natural places could be a proper alternative for outdoor LTPA. Regarding the driver "sport and LTPA-oriented businesses", people tend to attend places that include enough facilities, events or festivals. The comprehensive development of LTPA has been also neglected in part due to Iran's governmental economic structure which provides no significant support for private sector leisure activities.

Conclusion

Social, economic, environmental, technological and sport/sport sciences can determine regular and consistent participation of Iranians in LTPA.

This study discloses several practical implications. First, that would be valuable to identify various options of collaboration between responsible organizations to promote PA. Developing schools nearby playgrounds, encouraging active lifestyles (i.e. walking, biking, etc.) at educational centers and providing enough equipment can be mentioned as some practical solutions which need the interaction of different organizations. Secondly, it requires serious attention to develop physical activities among vulnerable groups. Municipalities must consider people with disabilities in their urban design programs. Media should propel women towards PA due to their contribution to the future generation's lifestyle. Providing incentives to women's participation would be helpful in this regard. Given the challenges for women (affected by traditional and religious beliefs) and the rate of population aging projected to increase significantly in the near future, a perspective shift is required for relevant decision-makers. Besides, the government has to allocate an adequate budget for promoting PA among elderlies. The lack of facilities and opportunities for this group was indicated in this study as well as their population that will increase to about 26 million seniors by 2050. The involvement of insurance companies could encourage elderlies toward participation in physical activities. Although some facilities have been built by the government

in recent years, it seems the focus has been more on elite sport rather than on public sport and LTPA. Regarding many young people in Iran, technology progression can either lead them to adopt a passive or active lifestyle. Even though some studies have identified the negative impact of technology on PA, new advancements in this area (e.g. development of virtual reality, etc.) can also lead to an increase in the standard level of PA in the modern life. It is therefore suggested to develop the potential capacity of technology in developing an active lifestyle among the new Iranian generation.

Due to a wide and diverse range of driving forces that can influence participation, collaboration at a macro level mainly by sport, education and health organisations seems to be highly crucial. These organisations can contribute to creating a healthy society by joining together in a common goal. Otherwise, development of independent plans will remain not only unsuccessful, but also costly. With regard to general prevalence of inactivity in Iran, LTPA programs should take into account the most important driving forces and develop a national PA policy accordingly.

Finally, regarding different socio-cultural contexts around the world, researchers can contribute to better establish the PA plans in different societies by applying the STEEPV framework.

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